CLAIMS

1. (1) A polypeptide consisting of the amino acid sequence of SEQ ID NO: 2 or SEQ ID NO: 4, or (2) a polypeptide exhibiting a potassium-dependent sodium-calcium exchange activity and consisting of an amino acid sequence in which 1 to 5 amino acids in total are substituted, deleted, inserted, and/or added at one or plural portions in the amino acid sequence of SEQ ID NO: 2 or SEQ ID NO: 4.

2. The polypeptide according to claim 1, which is (a) a polypeptide consisting of the amino acid sequence of SEQ ID NO: 2, or (2) a polypeptide exhibiting a potassium-dependent sodium-calcium exchange activity and consisting of an amino acid sequence in which 1 to 5 amino acids in total are substituted, deleted, inserted, and/or added at one or plural portions in the amino acid sequence of SEQ ID NO: 2.

3. The polypeptide according to claim 1 or 2, the sodium-calcium exchange activity is a reverse sodium-calcium exchange activity.

4. A polynucleotide encoding the polypeptide according to any one of claims 1 to 3.

5. An expression vector comprising the polynucleotide according to claim 4.

6. A cell transfected with the expression vector according to claim 5.

7. A method for producing the polypeptide according to any one of claims 1 to 3, characterized by using the cell according to claim 6.

8. A method for screening an inhibitor of the polypeptide according to any one of claims 1 to 3, comprising the steps of:

(1) bringing a cell expressing the polypeptide into contact with a substance to be tested,

(2) analyzing whether or not a potassium-dependent sodium-

(2) analyzing whether or not a potassium-dependent sodium-calcium exchange activity in the polypeptide is inhibited, and

(3) preparing a medicament containing the substance.

12. A pharmaceutical composition for inhibiting leukocyte activation, comprising as an active ingredient a substance obtainable by the method according to claim 8.

13. A pharmaceutical composition for treating postischemic reperfusion injury and/or an inflammatory disease, comprising as an active ingredient a substance obtainable by the method according to claim 8.

14. A method for inhibiting leukocyte activation, comprising the step of:
administering to a subject a substance obtainable by the method according to claim 8.

15. A method for treating postischemic reperfusion injury and/or an inflammatory disease, comprising the step of:
administering to a subject a substance obtainable by the method according to claim 8.

16. Use of a substance obtainable by the method according to claim 8, in the manufacture of a pharmaceutical composition for inhibiting leukocyte activation.

17. Use of a substance obtainable by the method according to claim 8, in the manufacture of a pharmaceutical composition for treating postischemic reperfusion injury and/or an inflammatory disease.